

the spool 102 is rotated via the pinion 120 coupled with the ring gear 118. In this manner, the seat belt is pretensioned.

[045] As shown in Fig. 3, a spool bearing 30 is interposed between the spool 102 and the hole 110a of the pretensioner plate 110. The surface of the spool bearing 30 is applied with lubrication coating. Employed as this coating material may be Solvest "dry coat"® in the same manner as mentioned above. Because of the spool bearing 30, the spool 102 is prevented from being directly subjected to the load.

In the Claims:

Please cancel claims 2, 4 and 8 without prejudice or disclaimer.

Please amend the claims as set forth below.

1. (Amended) A pretensioner which rotates a spool of a seat belt retractor in a belt winding direction to pretension a seat belt in the event of an emergency, comprising:
  - a gas generator;
  - a plurality of serial balls which will be accelerated by the gas from the gas generator;
  - a path for guiding the balls; and
  - a rotational member having a plurality of driving points wherein said balls collide with said driving points so as to apply rotational torque to said rotatable member;
    - wherein the driving points of said rotational member are partially positioned within said path, and
    - wherein a space for passage of said balls is defined by said path and said driving points and is narrower than the diameter of said balls; and
    - wherein the surfaces of said balls are applied with lubrication coating.

3. (Amended) A pretensioner which rotates a spool of a seat belt retractor to pretension a seat belt in the event of an emergency, comprising:

a gas generator;

a curved pipe connected to the gas generator and positioned to receive generated gas;

a plurality of balls which are arranged in series in the pipe to be accelerated by the generated gas in a direction away from the gas generator; and

a gear surrounded by the pipe and configured to rotate to drive rotation of the spool, the gear having external teeth for receiving at least one of the plurality of balls;

wherein the pipe includes an opening configured to permit the balls to contact the gear;

wherein the pretensioner is configured so that a wall of the pipe opposite the opening is elastically deformed by at least one of the balls during rotation of the gear; and

wherein an interior surface of the pipe is coated with lubricant.

6. (Amended) A pretensioner which rotates a spool of a seat belt retractor in a belt winding direction to pretension a seat belt, comprising::

a plurality of balls positioned in a pipe connected to a gas generator;

a rotatable gear having external teeth;

wherein the pretensioner is configured so that when generated gas enters the pipe the balls are accelerated through a space between the rotating gear and a portion of the pipe containing an opening;

wherein the space is configured so that as the balls move through the space the balls contact the external teeth of the gear to rotate the gear; and

wherein a width of the space is less than the diameter of at least one of the balls, thereby requiring a portion of the pretensioner to deform in order to allow the balls to pass through the space; and

wherein the inner surface of the pipe is coated with lubricant.